

**In the Claims:**

1-69. (Cancelled)

70. (New) A solar power system comprising:

at least one solar radiation concentrator having an optical focal point and having an aperture of between about 0.5 m and about 2 meters, adapted for focusing incident solar radiation with a single reflection to a single focal point;

at least one power conversion unit which receives said light after being focused; and

at least one solar tracking apparatus comprising at least one rotational drive.

71. (New) The system according to claim 70, wherein the system is configured for generating electric power and heat.

72. (New) The system according to claim 70, wherein the system is configured for generating electric power.

73. (New) The system according to claim 70, wherein the system is configured for generating heat.

74. (New) The system according to claim 70, wherein said solar radiation concentrator is shaped as a concave parabolic dish with diameter of about 1.1 meters.

75. (New) The system according to claim 70, wherein the solar radiation concentrator is shaped as a dish or a polygon.

76. (New) The system according to claim 70, wherein said at least one rotational drive comprises a radio-dial type drive.

77. (New) The system according to claim 76, wherein said radio-dial type drive is configured to have substantially zero backlash.

78. (New) The system according to claim 76, wherein said radio-dial type drive is configured to have substantially zero drift.

79. (New) The system according to claim 76, wherein said radio-dial type drive comprises a cable wrapped about a rotational element under a tension sufficient to have substantially zero backlash and substantially zero drift to avoid slack and slippage between the cable and the rotational element.

80. (New) The system according to claim 70, wherein the tracking apparatus comprises two rotational drives rotating around two non-parallel rotation axes.

81. (New) The system according to claim 70, further comprising a controller configured to maximize the radiation flux on the power conversion unit, using at least one of (a) a calculated expression based on geographical and time data, (b) a closed loop correction based on a measurement of at least one of the radiation flux or the generated output power.

82. (New) The system according to claim 70, wherein the solar radiation concentrator is configured to concentrate to at least 200 suns.

83. (New) The system according to claim 82 wherein the solar radiation concentrator is configured to concentrate to at least about 800 suns.

84. (New) The system according to claim 70, wherein the power conversion unit comprises at least one of a thermal engine and one or more concentrated photovoltaic cell.

85. (New) The system according to claim 71, characterized by a combined conversion efficiency to heat and electricity of at least 60%.

86. (New) The system according to claim 85, wherein the combined conversion efficiency is about 80%.

87. (New) The system according to claim 70, further comprising a coolant fluid mechanism adapted to heat the coolant fluid to at least 120°C by absorbing heat from the power conversion unit.

88 (New) The system according to claim 87, wherein the coolant fluid mechanism is adapted to heat the coolant fluid to at least 180°C.

89. (New) The system according to claim 70, wherein plurality of said solar radiation concentrators and plurality of said power conversion units are configured to be installed on a single said solar tracking apparatus.

90. (New) A solar plant comprising one or more solar collectors, wherein at least one of said solar collectors comprises:

at least one solar radiation concentrator having an optical focal point and having a diameter smaller than about 2 meters with 200 to 800 suns concentration, adapted for focusing incident solar radiation with single reflection to a single focal point;

at least one power conversion unit which receives said light after being focused; and

a solar tracking apparatus comprising at least one rotational drive.

91. (New) A solar plant according to claim 90, wherein said one or more collectors comprises a plurality of collectors which share a fluid pathway.

92. (New) The solar plant according to claim 90, further comprising a controller, which controls at least one solar tracking apparatus.

93. (New) The solar plant according to claim 91, wherein said one or more solar collectors further comprising a coolant fluid mechanism, and wherein said fluid pathway comprises a common closed loop coolant system.

94. (New) The solar plant according to claim 93, wherein said closed-loop coolant system comprises at least one heat exchanger.

95. (New) A method for supplying energy, the method comprising:  
providing at least one solar collectors, comprising:  
at least one solar radiation concentrator having an optical focal point and having a diameter smaller than about 2 meters, adapted for focusing incident solar radiation with a single reflection to a single focal point;  
at least one power conversion unit which receives said light after being focused; and  
a solar tracking apparatus comprising at least one rotational drive; and  
supplying at least one of a hot fluid and electric power to one or both of at least one appliance, and at least one power grid or both, using the at least one solar collectors.

96. (New) The method according to claim 95, wherein the at least one appliance comprises a space heater comprising a heat exchanger.

97. (New) The method according to claim 95, wherein the at least one appliance comprises an air conditioner comprising at least one absorption chiller.

98. (New) The method according to claim 95, wherein the at least one appliance comprises a hot water supply comprising a heat exchanger.

99. (New) The method according to claim 95, wherein the at least one appliance comprises a plurality of appliances, and wherein the supplying of the hot fluid comprises supplying the hot fluid at substantially different temperatures to each of at least two of the plurality of appliances.

100. (New) The method according to claim 95, further comprising discarding excess heat.

In re Application of: Abraham KRIBUS et al.  
Serial No.: 10/556,341  
Filed: April 17, 2007

Examiner: Not Yet Assigned  
Group Art Unit: 3749  
Attorney Docket: 30903

101. (New) The method according to claim 95, further comprising transmitting electric power to an electric grid.

102. (New) The system according to claim 70, wherein said at least one power conversion unit is positioned substantially at said focal point.